

ABSTRACT

5 An atomizer spray plate is provided for discharging
fuel oil. The spray plate has a cylindrical rear portion and
a conical front portion. A frusto-conical whirl chamber
10 extends from the rear portion to the front portion with a
decreasing radius. The rear portion includes a number of
whirl slots extending radially inward from an outboard
region of the rear portion to the whirl chamber to provide
the fuel oil with rotational energy. A discharge slot is
15 provided in the front portion of the spray plate for
receiving fuel oil from the whirl chamber with rotational
energy. The discharge slot includes a cylindrical through-
hole with a diameter d , and at least three lobes (slots)
equally spaced about the through-hole and oriented in a
radial direction, each lobe having a semi-circular cross-
section with radius r and extending approximately
perpendicular to a central longitudinal axis of the through-
hole.